

GUSTAV HAGEN ET AL.

USSN 09/424,686

7/25/2000

6,093,809

allowed

SEQ ID NO.: 1

6,308,867

4/30, 2001

- 6,261,836 7/17/2001
↑ SEQ ID NO.: 2
- a) a nucleic acid sequence encoding the protein of SEQ ID NO.: 2;
- b) a nucleic acid sequence encoding the amino acid sequence of the catalytic telomerase subunit of *Euplotes* p123 which is functionally equivalent to the protein of SEQ ID NO.: 2;
- c) a nucleic acid sequence encoding the amino acid sequence of the catalytic telomerase subunit of yeasts which is functionally equivalent to the protein of SEQ ID NO.: 2;
↑ *S. pombe*
- d) a first variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 2345 to 2526 of SEQ ID NO.: 1 have been deleted;
- e) a second variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 2184 to 2219 of SEQ ID NO.: 1 have been deleted;
- f) a third variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 2184 to 2219 and 2345 to 2526 of SEQ ID NO.: 1 have been deleted;
- g) a fourth variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 3219 to 3842 of SEQ ID NO.: 1 have been replaced by another sequence so that nucleotides 1783 to 3872 have the sequence of SEQ ID NO.: 7; and
- h) a fragment of SEQ ID NO.: 1 consisting of nucleotides 60 to 3470 of SEQ ID NO.: 1. --

E3
Cont.

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Full
H1

--15. An isolated and purified nucleic acid sequence according to claim 14,

which is a nucleic acid sequence encoding the protein of SEQ ID NO.: 2. --

--16. An isolated and purified nucleic acid sequence according to claim 15,

which is SEQ ID NO.: 1. --

--17. An isolated and purified nucleic acid sequence according to claim 14,

which is a nucleic acid sequence encoding the amino acid sequence of the catalytic telomerase subunit of *Euplotes* p123 which is functionally equivalent to the protein of SEQ ID NO.: 2. --

--18. An isolated and purified nucleic acid sequence according to claim 14,

which is a nucleic acid sequence encoding the amino acid sequence of the catalytic telomerase subunit of yeasts which is functionally equivalent to the protein of SEQ ID NO.: 2. --

--19. An isolated and purified nucleic acid sequence according to claim 14,

which is a first variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 2345 to 2526 of SEQ ID NO.: 1 have been deleted. --

--20.

An isolated and purified nucleic acid sequence according to claim 14,

Full
A2

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which is a second variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 2184 to 2219 of SEQ ID NO.: 1 have been deleted. --

Full

--21.

An isolated and purified nucleic acid sequence according to claim 14, which is a third variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 2184 to 2219 and 2345 to 2526 of SEQ ID NO.: 1 have been deleted. --

--22.

An isolated and purified nucleic acid sequence according to claim 14, which is a fourth variant nucleic acid sequence of SEQ ID NO.: 1, wherein nucleotides 3219 to 3842 of SEQ ID NO.: 1 have been replaced by another sequence so that nucleotides 1783 to 3872 have the sequence of SEQ ID NO.: 7. --

--23.

An isolated and purified nucleic acid sequence according to claim 14, which is a fragment of SEQ ID NO.: 1 consisting of nucleotides 60 to 3470 of SEQ ID NO.: 1. --

*E3
Cont.*

--24.

An isolated and purified protein encoded by the nucleic acid sequence according to claim 14. --

--25.

An isolated and purified protein encoded by the nucleic acid sequence

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according to claim 15. --

--26. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 16. --

--27. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 17. --

--28. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 18. --

--29. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 19. --

--30. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 20. --

--31. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 21. --

E3
Cont.

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--32. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 22. --

--33. An isolated and purified protein encoded by the nucleic acid sequence
according to claim 23. --

--34. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 14. --

--35. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 15. --

E³
Cont.
~~--36. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 16. --~~

~~--37. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 17. --~~

--38. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 18. --

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--39. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 19. --

--40. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 20. --

--41. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 21. --

--42. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 22. --

E3
cont --43. An antisense nucleic acid sequence that binds to the nucleic acid sequence
according to claim 23. --

--44. A vector comprising the nucleic acid sequence according to claim 14. --

--45. A microorganism comprising the vector according to claim 44. --

--46. A method for preparing a catalytically active telomerase subunit, said

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method comprising culturing the microorganism according to claim 45, and isolating the
catalytically active telomerase subunit. --

CONDITIONAL PETITION FOR EXTENSION OF TIME

If entry and consideration of the amendments above requires an extension of time,
Applicants respectfully request that this be considered a petition therefor. The Commissioner is
authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-
1263.

REMARKS

Applicants respectfully request reconsideration and allowance of this application in view
of the amendments above and the following comments.

The specification was objected to as containing a reference to Figure 1a. In response,
Applicants have amended the specification at the indicated places to make the correct reference
to Figure 1. A clean copy of the amended portions of the specification appears above, and a
mark-up showing the changes that have been made to the specification using brackets and